SOUTH ISLAND FOREST DISTRICT
West Coast

Forest Stewardship Plan

B.C. Timber Sales
Strait of Georgia Business Area

BCTS
BC Timber Sales
Strait of Georgia

106-06679/

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1 FOREST STEWARDSHIP PLAN

1.1 Date of Submission

The date of submission of this Forest Stewardship Plan (FSP) is _____, 2005.

1.2 Term of the FSP (Forest and Range Practices Act (FRPA) s.6(1)(a))

The term of this FSP is 5 years.

1.3 Commencement of Term (FRPA s. 6(1)(b))

The term of this FSP will begin on the date specified by the Minister.

1.4 Map (FRPA s. 5(1)(a) and Forest and Planning Practices Regulation (FPPR) s. 14)

The attached Maps 1 through 6 show the boundaries of the forest development units (FDUs) under this FSP. The maps also show the areas that are excluded from the FDU and from this FSP.

1.4.1 Areas to which FRPA s. 196(1) or (2) or FPPR s.110 Applies (FPPR s. 14(1)(c))

The attached Maps 1 through 6 show the cutblocks and roads included in Forest Development Plans (FDP) that are within a forest development unit under this FSP and considered approved under FRPA s.196(1) or (2), including those cutblocks referred to in FPPR s.110.

1.4.2 Particular Circumstances or Conditions

To the extent that the Minister is satisfied that circumstances or conditions render the Results and Strategies impracticable for a particular area, the Minister may authorize BC Timber Sales (BCTS) to vary Results and Strategies, in accordance with FRPA Section 12(7). Upon agreement with the Minister for an acceptable variance to a result or strategy, BCTS will comply with the authorization.

1.4.3 Designation in Effect at Date of Submission of this FSP (FPPR s.14(3))

The FSP Maps show the designations and requirements described in FPPR s.14(3) that were in effect on the Date of Submission, including, for ease of reference, the designations listed below.

Table 1: FPPR 14(3) Designations for Arrowsmith FSP – West Coast

FPPR 14 (3)(a) **Ungulate Winter Ranges**	**FDU**	**Date Designated**
#U1-017	various	November 26, 2003
FPPR 14 (3)(c)	**FDU**	**Date Designated**

Fisheries Sensitive Watersheds		
Effingham River	3	As per Schedule 2 FPPR Sec. 8.1
Escalante River	6	As per Schedule 2 FPPR Sec. 8.1
Nahmint River	2	As per Schedule 2 FPPR Sec. 8.1
Toquart River	4	As per Schedule 2 FPPR Sec. 8.1
FPPR 14 (3)(e) **Scenic Areas**	**FDU**	**Date Designated**
2 (Highway 4 from Parksville to Ucluelet and Tofino) 4 (Alberni Inlet fro Port Alberni to Bamfield) 5 (Nahmint River Valley) 7 (Barclay Sound, including views between Tzartus Island and Toquart Bay) 8 (Coastal shorelands between Toquart Bay and Ucluelet) 9 (Toquart River Valley to the North end of Toquart Lake) 10 (Effingham Inlet, Pipestern Inlet and Uchucklesit Inlet) 11 (Escalante) 12 (Zuciarte Channel) 13 (Mooyah Bay / Mooyah River Valley)	1-6	November 13, 1998
FPPR 14 (3) (g) **Community Watersheds**	**FDU**	**Date Designated**
Haggard Lake	2	June 15, 1995
Itatsoo	5	June 15, 1995
Mack	4	June 15, 1995
Mercantile	5	June 15, 1995
FPPR 14 (3)(h) **Old Growth Management Areas**	**FDU**	**Date Designated**
Draft OGMA's as per Sec 8 of *Order Establishing Provincial Non-spatial Old Growth Objectives*	2,3,4,5	As per MSRM letter dated Jan 24/05

1.4.4 Areas Within FDU's Subject to a Road Permit or Timber Sale Licence But Not Subject to this FSP (FPPR s. 14 (3)(k))

For the purposes of Section 14(3)(k), the FSP Maps 1 through 6 identify the areas that are subject to a road permit or Timber Sale Licence and are not subject to this FSP.

1.5 Results and Strategies

1.5.1 Land Use Objectives (FPPR s.1 definition)

1.5.1.1 *Order Establishing Provincial Non-Spatial Old Growth Objectives*

The Order Establishing Provincial Non-spatial Old Growth Objectives (effective June 30, 2004) clarifies the amount of area available for timber harvesting. This order supplements, but does not replace, FPPR s. 9.

<table>
<tr><th>FDU</th><th>Result / Strategy</th></tr>
<tr><td>1 and 6</td><td>(1) Subject to subsection (2) to (4) of this result or strategy, BCTS, in concert with other licensees working in the same FDU's, will harvest during the term of this FSP not more than the area of old growth specified in:
(a) the following tables,

Table 2: Old growth area available for timber harvest in FDU's with High or Intermediate Biodiversity Emphasis (BE):

<table>
<tr><th>FDU – BE</th><th>BEC Variant</th><th>OG Area available for harvest</th></tr>
<tr><td></td><td>A</td><td>B</td></tr>
<tr><td rowspan="4">2
(Nahmint portion) - H</td><td>CWH vm1</td><td>2320</td></tr>
<tr><td>CWH vm2</td><td>1920</td></tr>
<tr><td>CWH xm2</td><td>0</td></tr>
<tr><td>MH mm1</td><td>270</td></tr>
<tr><td rowspan="4">3 - I</td><td>CWH vh1</td><td>60</td></tr>
<tr><td>CWH vm1</td><td>3,230</td></tr>
<tr><td>CWH vm2</td><td>1,400</td></tr>
<tr><td>MH mm1</td><td>20</td></tr>
<tr><td rowspan="4">4 - I</td><td>CWH vh1</td><td>630</td></tr>
<tr><td>CWH vm1</td><td>4,530</td></tr>
<tr><td>CWH vm2</td><td>1,500</td></tr>
<tr><td>MH mm1</td><td>80</td></tr>
</table>

Table 3: Old growth area available for timber harvest in FDU's with Low Biodiversity Emphasis (BE):

<table>
<tr><th>FDU</th><th>BEC Variant</th><th>OG Area available for harvest</th><th>OG Area available for harvest with 2/3 Drawdown*</th></tr>
<tr><td></td><td>A</td><td>B</td><td>C</td></tr>
<tr><td rowspan="2">1</td><td>CWH vh1</td><td>450</td><td>710</td></tr>
<tr><td>CWH vm1</td><td>-30</td><td>20</td></tr>
<tr><td>6</td><td>CWH vh1</td><td>1,590</td><td>1,920</td></tr>
</table>
</td></tr>
</table>

	CWH vm1	2,140	2,720
	CWH vm2	1,950	2,220
	MH mm1	90	110
2 (Henderson portion)	CWH vm1	4,320	6,020
	CWH vm2	1,400	1,820
	MH mm1	60	100
5	CWH vh1	1,420	1,770
	CWH vm1	700	1,300
	CWH vm2	10	30

* column indicates the number of ha available for harvest if the maximum draw down value of 2/3 is applied (as per provision A5 in the Order).

Or;

(b) from tables that have been regenerated to reflect an inventory update.

(2) BCTS will not enter into a Timber Sale Licence or road permit agreement that will cause any of the above amounts to be exceeded. BCTS will work with other licensees operating within the same FDU's to apportion areas available for harvest.

(3) If:

(a) the amount of old growth available for harvest is expressed as less than or equal to zero in (1) of this result or strategy, or
(b) it is agreed to in subsection (2) of this result or strategy to surpass the amount of old growth to be harvested (column B or C),

BCTS will not harvest the relevant old growth in the indicated BEC variant except to the extent that younger forests are identified in accordance with Provision A5 or A6 of the Order.

(4) This result or strategy no longer applies to the Landscape Unit in which:

(a) the Minister of Sustainable Resource Management or other authorized representative of government specifies in writing under Provision A8 of the Order, that the draft Old Growth Management Areas meet the intent of the Order; or
(b) the Landscape Unit Plan is legally established.

1.5.1.2 *Vancouver Island Land Use Plan Higher Level Plan Order*

The Vancouver Island Land Use Plan, Higher Level Plan (HLP) Order (effective December 1, 2000) establishes Resource Management Zones and Resource Management Zone Objectives within the area covered by the Vancouver Island Land Use Plan (VILUP).

Some or all of Special Management Zones (SMZ) 13, 14 and 18, and Enhanced Resource Management Zones (EFZ) 38 & 40, are within FDU's that are part of this plan.

The applicable Higher Level Plan Order Objectives for the SMZs and EFZs are listed in the following tables and described below.

Special Management Zone	Applicable HLP objective	FDU
SMZ 13 - Nahmint	1, 2, 4, 5, 6	2
SMZ 14 - Barkley Sound	1, 2, 6	1,2,3,4
SMZ 18 - Alberni Canal	1, 2, 6	2

Enhanced Resource Management Zone	Applicable HLP objective	FDU
EFZ 38 - Effingham*	7, 8, 9, 9.1	3
EFZ 40 - Maggie*	7, 8, 9, 9.1	5

* Objectives 7, 8, 9, 9.1 apply save and except for the parts of those zones, which are designated as community watersheds as defined in section 41(8) of the *Forest Practices Code of British Columbia Act.*

A small area of the Nahmint SMZ (SMZ 13) is a part of the Forest Stewardship Plan within FDU 2.
Areas of SMZ 14 (Barkley Sound) fall within the FDU's 1 ,2, 3, and 4.
An area of SMZ 18 (Alberni Canal) is within the FDU 2.

➢ **SMZs 13 (Nahmint), 14 (Barkley Sound) and 18 (Alberni Canal) that are within FDUs 1, 2, 3, 4**

Objective	Result or Strategy
HLP Order Objective 1(a) *1. Sustain forest ecosystem structure and function in SMZs by:* *(a) Creating or maintaining stand structures and forest attributes associated with mature[1] and old[2] forests subject to the following:* *i. The target for mature seral forest should range from one quarter to one third of the forested area of each SMZ[3]; and* *In the SMZs where the area of mature forest is currently less than the mature target range referred to in (i) above, the target amount of mature forest must be in place within 50 years.*	BCTS will report the areas harvested within the following SMZ's at the end of the term of this FSP. BCTS will not enter into a Timber Sale Licence or grant a road permit that will cause the area harvested to exceed the following thresholds: (a) within the Barkley Sound SMZ, not more than 2000 hectares ; and (b) within the Alberni Canal SMZ portion of FDU 2, not more than 200 hectares, of mature and old forests (such area to be based on the net area to be reforested plus permanent access structures). If within the Alberni Canal SMZ , the 200 ha is to be exceeded, the ¼ to 1/3 target for mature plus old will be spatially defined. If, within the Nahmint SMZ, the targets for mature and old forests in Objective 1(a) are not met in the area outside of the FDUs of this FSP.

[1] The mature seral forest is defined as generally 80 to 120 years old or older, depending on species and site conditions. The structure of mature seral forests generally includes canopies that vary vertically or horizontally, or both. The age and structure of the mature seral stage will vary significantly by forest type and from one biogeoclimatic zone to another.

[2] The old seral forest is defined as generally greater than 250 years old, containing live and dead (downed and standing) trees of various sizes, including large diameter trees, and of various tree species, including broad-leaved trees. The structure of old seral forest varies significantly by forest type and from one biogeoclimatic zone to another.

[3] Mature seral targets will be established through landscape unit planning. See transition provisions under III

Objective	Result or Strategy
	then BCTS will ensure that any Timber Sale Licence or road permit entered into will permit harvesting consistent with the portion of those targets that must be met within the FDUs of this FSP.
HLP Order Objective 1(b) *1. Sustain forest ecosystem structure and function in SMZs by:* *(b)Retaining, within cutblocks[4], structural forest attributes and elements with important biodiversity functions[5]*	If harvesting or road construction is authorized or carried out by BCTS in a cutblock to which Objective 1(b) applies, structural forest attributes with important biodiversity functions that exist in wildlife tree patches, no-work zones, riparian management areas or other potential leave areas will be retained.
HLP Order Objective 1(c) *1. Sustain forest ecosystem structure and function in SMZs by:* *(c)Applying a variety of silvicultural systems, patch sizes and patch shapes across the zone, subject to a maximum cutblock size of 5 ha if clearcut, clearcut with reserves or seed tree silvicultural systems are applies, and 40 ha if shelterwood, selection or retention silvicultural systems are applied[6].*	Subject to the result or strategy for Objective 2, if harvesting or road construction is authorized or carried out by BCTS within an SMZ to which Objective 1(c) applies, BCTS will apply a variety of patch sizes and shapes across the zone. Where shelterwood, selection, or retention silvicultural systems are applied, varying levels of retention will be maintained within the cutblock boundaries, as determined by site conditions and the forest values that are present in the area. Openings will be designed to have a NAR of 40 hectares or less. Where clear-cut, clear-cut with reserves or seed tree silvicultural systems are applied, each holder of the FSP will design openings to have a NAR of 5 hectares or less. BCTS will provide, in a ledger, at the end of the term of the FSP, for each cutblock: (c) Levels of retention; (d) size of opening (in ha); (e) silvicultural system employed.
HLP Order Objective 2 *2. Despite subsection 1(c) above, cutblocks larger than 5 or 40 ha, as the case may be, may be approved if harvesting is being carried out to recover timber that was damaged by fire, insects, wind or other similar events and wherever possible, the cutblock incorporates structural characteristics of natural disturbances.*	If harvesting or road construction is authorized or carried out by BCTS to recover timber damaged by fire, insects, wind or other similar events within an SMZ to which Objective 2 applies, an area larger than the 5 or 40 hectares as specified in Objective 1(c), may be harvested provided that, wherever possible, structural characteristics of natural disturbances are incorporated into the cutblock.

[4] Within cutlocks: generally means non-contiguous with cutblock boundaries.
[5] This includes, but is not limited to snags, wildlife trees, downed logs.
[6] Maximum cutblock sizes refer to net are to be reforested.

Objective	Result or Strategy
HLP Order Objective 4 – APPLICABLE TO SMZ 13 ONLY *4. Maintain late-successional habitat elements and attributes of biodiversity in forested ecosystems with emphasis on regionally rare and underrepresented ecosystems, by retaining old seral forest at the site series/surrogate level of representation*[6].	If harvesting or road construction is authorized or carried out by BCTS within SMZ 13, at the conclusion of harvesting, late-successional habitat elements and attributes of biodiversity will be retained in WTP's, riparian management areas and other areas reserved from harvesting. WTP's within cutblocks will include representation from a site series present within the harvested area.
HLP Order Objective 5 – APPLICABLE TO SMZ 13 ONLY *5. Retain late-successional habitat elements and attributes of biodiversity in patches of variable size.*	If harvesting or road construction is authorized or carried out by BCTS within SMZ 13, at the conclusion of harvesting, late-successional habitat elements and biodiversity attributes within reserve areas will be retained within and adjacent to the cutblock. Patches of reserved forest within or adjacent to cutblocks will: • Be of varying size, and • Contain late successional habitat elements and biodiversity attributes.
HLP Order Objective 6 *6. Maintain the visual quality of known scenic areas in accordance with the recommended visual quality classes in the visual landscape inventory, until the District Manager establishes the visual quality objectives for the areas.*	If harvesting or road construction is authorized or carried out by BCTS within the known scenic areas (specified in the November 13, 1998 All Licensee letter from the SIFD District Manager), such activities will be consistent with the recommended Visual Quality Classes (rVQC) specified in the approved Visual Landscape Inventories for the areas until the District Manager establishes visual quality objectives for the area.

[5] This includes, but is not limited to: large diameter (>60 cm) live, decaying and dead standing trees (providing nest and cavity sites); downed wood, including large diameter pieces (50 to 150 cm); deciduous broad-leaved trees, both in riparian and upland areas.

[6] The level of representation of old seral forest will be applied through landscape unit planning.

➢ **EFZs 38, 40 – Maggie and Effingham EFZ's areas that are within FDU's 3 and 5**

Objective	Result or Strategy
HLP Order Objective 7 *7. To increase the short-term availability of timber,* *(a) a cutblock may be larger than 40 ha pursuant to section 11(2)(a) of the OPR; and* *(b) pursuant to section 68(4) of the OPR, a cutblock is greened-up if it is adequately stocked and the average height of those trees that are* *i the tallest tree in each 0.01 ha plot included in a representative sample, and* *ii a commercially valuable species or other species acceptable to the district manager* *is at least 1.3 meters;* *unless the district manager determines that a cutblock referred to under (a) or (b) would significantly impact specific hydrological, wildlife, biodiversity, scenic or recreation values.*	For HLP Order Objective 7(a), BCTS may authorize harvest of cutblocks larger than 40 ha in the Maggie and Effingham EFZs within the FDUs of this FSP. The silvicultural system used does not preclude a cutblock being larger than 40 ha. To be considered greened-up, cutblocks will be consistent with HLP Objective 7(b) A non-greened up cutblock adjacent to a cutblock proposed for harvest will be considered part of the NAR of the proposed cutblock to accommodate specific hydrological, wildlife, biodiversity, scenic and recreation values.
HLP Order Objective 8 *8. Avoid or mitigate adverse hydrological impacts, which may result from the practices referred to in objective 7, in watersheds with significant watershed sensitivity and significant fisheries values, as determined by the district manager and designated environment official.*	If BCTS designs a cutblock greater than 40 ha in the Effingham River watershed within the Effingham EFZ, the design will be such that it avoids or mitigates any material adverse hydrological impact.
HLP Order Objective 9 *9. When proposing the species composition for the purposes of OPR section 39(3)(o), a person may, pursuant to OPR section 41, select a single species that is ecologically suited to the area, if a mix of species was present on the area before the timber was harvested.*	BCTS will propose to use more than one species to reforest cutblocks within the EFZs in this FSP.
HLP Order Objective 9.1 *9.1. The area that may be subject to selection of a single species pursuant to objective 9 is limited to no more than 20 percent of the forested area of any variant within a given EFZ.*	

1.5.2 Objectives Prescribed Under FRPA Sec.149

1.5.2.1 *Soils*

Objective set by government for soils (FPPR Section 5)

The objective set by government for soils is, without unduly reducing the supply of timber from British Columbia's forests, to conserve the productivity and the hydrologic function of soils.

As per FPPR 12.1(1), Timber Sale Licences and road permits issued by BCTS will be subject to FPPR s. 35 and s. 36. In accordance with FPPR s. 12.1(1)(b), when BCTS receives approval of this plan, BCTS will be exempt from the requirement to specify intended results and strategies set out in FPPR s. 5.

1.5.2.2 *Wildlife*

Objectives set by government for wildlife (FPPR Section 7)

The objective set by government for wildlife is, without unduly reducing the supply of timber from British Columbia's forests, to conserve sufficient wildlife habitat in terms of amount of area, distribution of areas and attributes of those areas, for

(a) the survival of species at risk,

(b) the survival of regionally important wildlife, and

(c) the winter survival of specified ungulate species.

(a) *A person required to prepare a forest stewardship plan must specify a result or a strategy in respect of the objective stated under subsection (1) only if the ministe r responsible for the Wildlife Act gives notice to the person of the applicable*

(a) species referred to in subsection (1), and

(b) indicators of the amount, distribution and attributes of wildlife habitat described in subsection (1).

(b) *If satisfied that the objective set out in subsection (1) is addressed, in whole or in part, by an objective in relation to a wildlife habitat area or an ungulate winter range, a general wildlife measure, or a wildlife habitat feature, the minister responsible for the Wildlife Act must exempt a person from the obligation to specify a result or strategy in relation to the objective set out in subsection (1) to the extent that the objective is already addressed.*

(c) *On or after December 31, 2004, a notice described in subsection (2) must be given at least 4 months before the forest stewardship plan is submitted for approval.*

FDU	Species	Result or Strategy
All FDU's	Queen Charlotte Goshawk *Accipiter gentilis laingi*	(1) To the extent provided in the notice dated December 21, 2004 under FPPR s.7(2) (the Notice) and subject to FPPR s.7(3), BCTS will harvest and build roads (or authorize such) consistent with FPPR Sec.7. (2) For the purposes of subsection (1), the amount of habitat specified in the Notice will be: (a) first, identified on the non-contributing land base and, if there is insufficient habitat on that land base, then identified on the contributing land base; and (b) reduced by the amount of area within any wildlife habitat area for this species established in the South Island Forest District subsequent to the date of the Notice. (3) If the Minister responsible for the Wildlife Act has determined that the requirement set in the Notice has been reached in areas outside of FDU's in this FSP (by the aggregate of non-contributing and partially contributing landbase), then BCTS is no longer required to ensure the results and strategies referred to in subsection (1) are carried out.
All FDU's	Marbled Murrelet *Brachyramphus marmoratus*	(1) In the areas to which the Notice dated December 21, 2004 under FPPR s.7(2) (the "Notice") for the South Island Forest District applies, BCTS will not authorize road construction or harvesting of cutblocks that will cause more than 31% of the age class 8 and 9 forest (that was available as of 2002) to be harvested within this FSP. If a detailed survey is conducted within the plan area, a maximum 31 % of the Class 1, 2 or 3 marbled murrelet habitat as described in *Standard Methods for Identifying Marbled Murrelet Habitat in British Columbia Using Air Photo Interpretation and Low-level Aerial Surveys* can be harvested. This will replace the amount described in the notice of Indicators of the Amount, Distribution and Attributes of Wildlife Habitat of Species At Risk in the South Island Forest District (2) For the purposes of subsection (1), the amount of habitat specified in the Notice will be: (a) first, identified on the non-contributing land base and, if there is insufficient habitat on that land base, then identified on the contributing land base; and (b) reduced by the amount of area within any wildlife habitat area for this species established in the South Island Forest District subsequent to the date of the Notice. (3) If the Minister responsible for the Wildlife Act has determined that the requirement set in the Notice has been reached in areas outside of FDU's in this FSP (by the aggregate of non-contributing and partially contributing landbase), then BCTS is no longer required to ensure the results and strategies referred to in subsection (1) are carried out.

All	Scouler's Corydalis *Corydalis scouleri*	(1) To the extent provided in the notice dated December 21, 2004 under FPPR s.7(2) (the Notice) and subject to FPPR s.7(3), BCTS will harvest and build roads (or authorize such) consistent with FPPR Sec.7 (2) For the purposes of subsection (1), the amount of habitat specified in the Notice will be: (a) first, identified on the non-contributing land base and, if there is insufficient habitat on that land base, then identified on the contributing land base; and (b) reduced by the amount of area within any wildlife habitat area established in the South Island Forest District subsequent to the date of the Notice. (3) If the Minister responsible for the Wildlife Act has determined that the requirement set in the Notice has been reached in areas outside of FDU's in this FSP (by the aggregate of non-contributing and partially contributing landbase), then BCTS is no longer required to ensure the results and strategies referred to in subsection (1) are carried out.

1.5.2.3 *Water, Fish, Wildlife and biodiversity within Riparian Areas*

Objective set by government for water, fish, wildlife and biodiversity within riparian areas –(FPPR Section 8).

The objective set by government for water, fish, wildlife and biodiversity within riparian areas is, without unduly reducing the supply of timber from British Columbia's forests, to conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with those riparian areas.

- **Width of Riparian Management Zone, Riparian Reserve Zone and Riparian Management Area (FPPR section 47(4) and 49(2))**

FDU	Result or Strategy
All	For any cutblocks or roads within cutblocks authorized by BCTS, the width of the riparian management zone, riparian reserve zone and the riparian management area will be either: (a) as specified in FPPR s.47(4), 48(3) and 49(2); or (b) such other width or widths that may pertain to a cutblock, provided that such other width or widths reflect: • the type of management regime that is required for a riparian area, having regard to: (A) the need to buffer the aquatic ecosystem of a stream, wetland or lake from the introduction of materials that are deleterious to water quality or fish habitat, (B) the role played by trees and understory vegetation in conserving water quality, fish habitat, wildlife habitat and biodiversity; (C) the need to maintain stream bank and stream channel integrity; (D) the relative importance and sensitivity of different riparian classes of streams, wetlands and lakes; • the type, timing or intensity of forest practices that can be carried out within the context of a management regime referred to in the factors above; and • the role of forest shading in controlling an increase in temperature within a temperature sensitive stream, if the increase might have a deleterious effect on fish or fish habitat; and For areas referred to in (b), the riparian reserve zone retained will not be less than 90% of the area that would be retained through using FPPR s.47(4), 48(3) and 49(2) as measured at the watershed level over the term of this FSP. The balance of the riparian reserve area

	wil be carried over into the next term. All roads outside of cutblocks will have riparian reserve zones in accordance with FPPR S47(4), 48(3) and 49(2). For construction of roads through a stream, wetland or lakeshore Riparian Management Area, the Riparian Management Area will be as specified in FPPR s. 47(4), 48(3) and 49(2).

➢ **Restrictions in a Riparian Reserve Zone (FPPR s.51)**

As per FPPR 12.1(2), Timber Sale Licences and road permits issued by BCTS will be subject to FPPR s. 51. In accordance with FPPR s. 12.1(2)(b), when BCTS receives approval of this plan, BCTS will be exempt from the requirement to specify intended results and strategies set out in FPPR s. 8.

➢ **Forest Practices in a Riparian Management Zone (FPPR s.52(2))**

FDU	Result or Strategy
All	BCTS will: (a) As per FPPR 12.1(2), Timber Sale Licences and road permits issued by BCTS, be subject to FPPR s. 52(2). In accordance with FPPR s. 12.1(2)(b), when BCTS receives approval of this plan, BCTS will be exempt from the requirement to specify intended results and strategies set out in FPPR s. 8 or (b) take such other action that is consistent with the objective in FPPR s.8, and reflects: 1. the type of management regime that is required for a riparian area, having regard to: • the need to buffer the aquatic ecosystem of a stream, wetland or lake from the introduction of materials that are deleterious to water quality or fish habitat, • the role played by trees and understory vegetation in conserving water quality, fish habitat, wildlife habitat and biodiversity; • the need to maintain stream bank and stream channel integrity; • the relative importance and sensitivity of different riparian classes of streams, wetlands and lakes; 2. the type, timing or intensity of forest practices that can be carried out within the context of a management regime referred to in the factors above; and 3. the role of forest shading in controlling an increase in temperature within a temperature sensitive stream, if the increase might have a deleterious effect on fish or fish habitat.

➢ **Retention in a Riparian Management Zone (FPPR s.12(3))**

FDU	Result or Strategy
All	BCTS will ensure that any harvesting within a RMZ provides, at the conclusion of harvest, varying levels of retention, taking into consideration, the following. (a) the type of management regime that is required for a riparian area: • the need to buffer the aquatic ecosystem of s stream, wetland or lake from the introduction of materials that are deleterious to water quality or fish habitat; • the role played by trees and understory vegetation in conserving water quality or fish habitat:

	⏲ the need to maintain stream bank and stream channel integrity; ⏲ the relative importance and sensitivity of different riparian classes of streams, wetlands and lakes; (b) the type, timing or intensity of forest practices that can be carried out within the context of a management regime referred to in the factors above; and (c) the role of forest shading in controlling an increase in temperature within a temperature sensitive stream, if the increase might have a deleterious effect on fish or fish habitat.

1.5.2.4 *Fisheries Sensitive Watersheds*

Objectives set by government for fish habitat in fisheries sensitive watersheds (FPPR Section 8.1)

*1. In this section, "**fisheries sensitive watershed**" means an area identified in Schedule 2 of this regulation*

(a) with significant downstream fisheries values continued under section 180(f) of the Act and significant watershed sensitivity continued under section 180(g) of the Act, and

(b) for which there is no fisheries sensitive watershed objective.

2. Until December 31, 2005 the objective set by government for fish habitat in fisheries sensitive watersheds is to prevent to the extent described in subsection (3) the cumulative hydrological effects of primary forest activities in the fisheries sensitive watershed from resulting in a material adverse impact on the habitat of the fish species for which the fisheries sensitive watershed was established

3. The objective set by government under subsection (2) applies only to the extent that it does not unduly reduce the supply of timber from British Columbia's forests.

4. If satisfied that the objective set out in subsection (2) is not required to provide special management, the minister responsible for the Wildlife Act must exempt a person from the requirement to specify a result or strategy in relation to the objective.

5. If satisfied that the objective set out in subsection (2) is addressed, in whole or in part, by an enactment, the minister responsible for the Wildlife Act must exempt a person from the requirement to specify a result or strategy in relation to the objective set out in subsection (2) to the extent that the objective is already addressed.

➢ **Conditional exemption as it pertains to cumulative hydrological effects (FPPR S. 12.3(1)).**

FDU	Result or Strategy
3,4,6	For those watersheds listed as fisheries sensitive: 1. if primary forest activities (logging and road building) are estimated to be within five percentage points of an established Coastal Watershed Assessment (CWAP) threshold for the fisheries sensitive portion of the watershed, BCTS will, within the FDU containing a fisheries sensitive watershed of this FSP: A. Implement monitoring of the following environmental indicators for cumulative hydrological effects on Crown land as listed in the Coastal Watershed Assessment Procedure Guidebook (CWAP), Second edition, Version 2.1, 1999: i. Percent of watershed and/or sub-basin harvested, by important elevation bands, corrected for ECA (%), ii. Road density (km/km²), and iii. Mass wasting potential B. BCTS will ensure that any Timber Sale Licence or road permit entered into will require management of its cutblocks and roads to a cumulative low to moderate risk threshold for material adverse hydrological effects.

FDU	Result or Strategy
	2. If there are no established thresholds, BCTS will ensure that any Timber Sale Licence or road permit entered into within the FDU containing a fisheries sensitive watershed portion of this FSP will: A. prior to initiation of primary forest activities(logging and road-building) be monitored for the following environmental indicators for cumulative hydrological effects on Crown land as listed in the Coastal Watershed Assessment Procedure Guidebook (CWAP), Second edition, Version 2.1, 1999: i. Percent of watershed and/or sub-basin harvested, by important elevation bands, corrected for ECA (%), ii. Road density (km/km^2), and iii. Mass wasting potential B. and BCTS will ensure that any Timber Sale Licence or road permit entered into will require management of its cutblocks and roads to a cumulative low to moderate risk threshold for material adverse hydrological effects.

1.5.2.5 *Community Watersheds*

Objectives set by government for water in community watersheds (FPPR Section 8.2)

*1. In this section, "**community watershed**" means a community watershed*

(a) That is continued under section 180(e) of the Act, and

(b) for which a water quality objective has not been

(i) continued under section 181 of the Act, or

(ii) established under the Government actions Regulation.

2. The objective set by government for water being diverted for human consumption though a licensed waterworks in a community watershed is to prevent to the extent described in subsection (3) the cumulative hydrological effects of primary forest activities within the community watershed from resulting in

(a) a material adverse impact on the quantity of water or the timing of the flow of the water from the waterworks, or

(b) the water from the waterworks having a material adverse impact on human health that cannot be addressed by water treatment required under

(i) an enactment, or

(ii) the licence pertaining to the waterworks.

3. The objective set by government under subsection (2) applies only to the extent that it does not unduly reduce the supply of timber from British Columbia's forests.

4. If satisfied that the objective set out in subsection (2) is not required to provide special management the minister responsible for the Wildlife Act must exempt a person from the requirement to specify a result or strategy in relation to the objective.

5. If satisfied that the objective set out in subsection (2) is addressed, in whole or in part, by an enactment, the minister responsible for the Wildlife Act must exempt a person from the requirement to specify a result or strategy in relation to the objective set out in subsection (2) to the extent that the objective is already addressed.

➢ **Conditional exemption as it pertains to cumulative hydrological effects (FPPR S. 12.3(2))**

FDU	Result or Strategy
2, 4 and 5	For those areas potentially affected by primary forest activities (harvesting and logging) within a community watershed 1. if primary forest activities (logging and road building) are estimated to be within five percent of an established Coastal Watershed Assessment (CWAP) threshold, Coastal Watershed Assessment (CWAP) thresholds, BCTS will, within the FDU containing the community watershed of this FSP, within the area potentially affected: A. implement monitoring of the following environmental indicators for cumulative hydrological effects on Crown land as listed in the Coastal Watershed Assessment Procedure Guidebook (CWAP), Second edition, Version 2.1, 1999: i. Percent of watershed and/or sub-basin harvested, by important elevation bands, corrected for ECA (%), ii. Road density (km/km²). and iii. Mass wasting potential B. and BCTS will ensure that any Timber Sale Licence or road permit entered into will require management of its cutblocks and roads to a cumulative low to moderate risk threshold for material adverse hydrologic al effects. 2. If there are no established thresholds, BCTS will, within the FDU containing a community watershed of this FSP, within the area potentially affected: A. prior to initiation of primary forest activities (logging and road building), implement monitoring of the following environmental indicators for cumulative hydrological effects on Crown land as listed in the Coastal Watershed Assessment Procedure Guidebook (CWAP), Second edition, Version 2.1, 1999: i. Percent of watershed and/or sub-basin harvested, by important elevation bands, corrected for ECA (%), ii. Road density (km/km²), and iii. Mass wasting potential B. and BCTS will ensure that any Timber Sale Licence or road permit entered into will require management of its cutblocks and roads to a cumulative low to moderate risk threshold for material adverse hydrological effects.

1.5.2.6 *Wildlife and Biodiversity*

Objectives set by government for wildlife and biodiversity – landscape level (FPPR Section 9)

The objective set by government for wildlife and biodiversity at the landscape level is, without unduly reducing the supply of timber from British Columbia's forests and to the extent practicable, to design areas on which timber harvesting is to be carried out that resemble, both spatially and temporally, the patterns of natural disturbance that occur within the landscape.

As per FPPR 12.1(3), Timber Sale Licences and road permits issued by BCTS will be subject to FPPR s. 64 and s. 65. In accordance with FPPR s. 12.1(3)(b), when BCTS receives approval of this plan, BCTS will be exempt from the requirement to specify intended results and strategies set out in FPPR s. 9.

Objectives set by government for wildlife and biodiversity – stand level (FPPR Section 9.1)

The objective set by government for wildlife and biodiversity at the landscape level is, without unduly reducing the supply of timber from British Columbia's forest, to retain wildlife trees

All FDUs	As per FPPR s 12.1(4), Timber Sale Licences and road permits issued by BCTS will be subject to FPPR s 67. BCTS will be exempt from the requirement to specify intended results and strategies set out in FPPR s. 9 except that for FPPR s. 66,: • wildlife tree retention for specific BEC subzones in the landscape unit will be consistent with those specified in the Regional Land Use Plan database (version 2, March 13, 2002 where "LUs are considered to have been designated") or • a spatial wildlife tree retention analysis will be conducted, identifying the already-constrained area (as determined by buffering the non-contributing land base). Wildlife tree retention within 250m of already constrained areas may be used towards meeting the wildlife tree retention target. The time frame for achievement of targets will be the term of this plan.

1.5.2.7 *Visual Quality*

Objective set by government for visual quality – (FPPR Section 9.2)

1. In this section:
*"**scenic area**" means an area of land established as a scenic area under the Forest Practices Code of British Columbia Act on or before October 24, 2002 and continued as a scenic area under section 180 (c) of the Act;*

*"**visual sensitivity class**" means a visual sensitivity class established on or before October 24, 2002, particulars of which are publicly available in the land and Resource Data Warehouse maintained by the minister responsible for the Land Act.*

2. The objective set by government in relation to visual quality for a scenic area, that
(a) was established on or before October 24, 2002, and
(b) for which there is no visual quality objective

is to ensure that the altered forest landscape for the scenic area

(c) in visual sensitivity class 1 is in either the preservation or retention category,
(d) in visual sensitivity class 2 is in either the retention or partial retention category,
(e) in visual sensitivity class 3 is in either the partial retention or modification category,
(f) in visual sensitivity class 4 is in either the partial retention or modification category, and
(g) in visual sensitivity class 5 is in either the modification or maximum modification category.

FDU	Result or Strategy
All	A. Where cutblocks and roads are harvested under TSLs issued by the timber sales manager within the scenic areas made known in the South Island Forest District letter dated November 13, 1998, such activities will be carried out consistent with FPPR s. 9.2(2). B. For the purpose of Section A of this result or strategy, the visual sensitivity classes that apply are those specified in the Arrowsmith TSA Visual Landscape Inventory (VLI) or the TFL 54 VLI established on or before October 24, 2002 and subsequent amendments or revisions to that inventory that have been mutually agreed upon by BCTS and/or the holder of TFL 54 and the Ministry of Forests.

1.5.2.8 *Cultural Heritage Resources*

Objective set by government for cultural heritage resources (FPPR Section 10) -.

An objective set by government for cultural heritage resources is to conserve, or, if necessary, protect cultural heritage resources that are

(a) *the focus of a traditional use by an aboriginal people that is of continuing importance to that people, and*
(b) *not regulated under the Heritage Conservation Act.*

FDU	Result or Strategy
All	**A.** BCTS will or will ensure that Timber Sale Licences or road permits entered into, require road construction or timber harvesting under this FSP be done in a manner consistent with: 1. conserving or if necessary, protecting cultural heritage resources that are: (a) Referred to in FPPR s.10; (b) Likely to be adversely impacted by the activities of holders of BCTS agreements (c) Not conserved or protected by other arrangements; (d) Capable of being addressed in the context of this FSP; and (e) In the context of the historical extent of the traditional use by an aboriginal people, are determined to be important, valuable and scarce through: I. consultation and information sharing with First Nations prior to review and comment of this Forest Stewardship Plan under FPPR s.20, or II. comments made by affected First Nations in accordance with FPPR s. 21 or III. comments received from affected First Nations before the Timber Sales Manager invites application for a Timber Sale Licence or enters into a road permit. 2. the traditional use within the First Nation's asserted traditional territory that falls within a forest development unit of the cultural heritage resources referred to in paragraph (1).

FDU	Result or Strategy
All	**B.** 1. If a cultural heritage resource is identified within an area that is or is proposed by BCTS to be subject to a road permit or Timber Sale Licence, BCTS will evaluate the potential cultural heritage resource against the criteria in Section A above 2. BCTS will make reasonable efforts to consult with and/ or share information with First Nations regarding the potential cultural heritage resource.
All	**C.** BCTS will, as soon as practicable, provide the Ministry of Forests with a copy of each evaluation carried out under Section B.

Objectives Established Under GAR

➢ **Objective Set Within Ungulate Winter Range U1-017**

FDU	Result or Strategy
All FDU's	The design of roads, cutblocks, road construction and harvesting activities will be consistent with objectives (1-4) established by *Order-Ungulate Winter Range #U1-017* as identified on Maps 1 through 6

1.6 Stocking Standards

1.6.1 Situations or Circumstances that determine whether Free Growing is Assessed on a Block Basis or Across Blocks

FPPR s. 44(1) applies in all situations or circumstances under the FSP where a free growing stand is required to be established under FRPA s. 29.

1.6.2 Regeneration Date and Stocking Standards, Free Growing Height

Section 2 specifies the regeneration date, free growing height and stocking standards for the situations or circumstances where FPPR s. 44 (1) applies.

1.7 Measures to Prevent the Introduction and Spread of Invasive Plants

Measures to Prevent the Introduction and Spread of Invasive Plants (FPPR s.17, FRPA s.47)
FRPA s. 47 requires that:

A person carrying out a forest practice or a range practice must carry out measures that are

(a) specified in the applicable operational plan, or

(b) authorized by the minister

to prevent the introduction or spread of prescribed species of invasive plants.

FPPR s. 17
For the purpose of section 47 [invasive plants] of the Act, a person who prepares a forest stewardship plan must specify measures in the plan to prevent the introduction or spread of species of plants that are invasive plants under the Invasive Plants Regulation, if the introduction or spread is likely to be the result of the person's forest practices.

FDU	Measures
ALL	If, in the judgement of BCTS, it is likely that forest practices will result in introduction or spread of invasive plants, and: ▪ moderate to high risk invasive plants are likely to germinate on soil exposed that is a result of a person's forest practices under this FSP, ▪ it is reasonably expected that grass would grow on these exposed sites, and ▪ it is reasonably foreseeable that revegetation with grass seed would materially reduce the likelihood of invasive plant germination, BCTS will ensure that Timber Sale Licenses and road permits entered into will be responsible for or that BCTS will (a) within two years of BCTS completing such activity, seed such soil that exceeds 0.1 ha in contiguous area; and (b) give preference to seed: i. with high sod-forming content (except in areas that are planted with tree seedlings), ii. that has been certified by the Canadian Seed Growers Association that the seed meets the standards for varietal purity established by the Association for seed of that kind of species (Seeds Act, Seeds Regulation s.2(1)), and iii. that is of native origin, provided: (a) the seed is readily available, (b) the seed is comparable in cost to agronomic mixtures, and (c) the seed is comparable in effectiveness to agronomic mixtures.

1.8 Measures to Mitigate the Effect of Removing or Rendering Ineffective Natural Range Barriers.

There are no agreements under the Range Act that apply to FDU's in this FSP. Accordingly no measures have been specified for FPPR s.18 or FRPA s. 48.

1.9 Signatures of Persons Required to Prepare Plan

BC Timber Sales, Strait of Georgia Business Area

RPF Signature: _____

Name: Laurie McCulligh, R.P.F.

Position: Planning Forester, BC Timber Sales, Strait of Georgia Business Area

Date: _____

Licensee Signature: _____

Name: Ken Matthews

Position: Timber Sales Manager, BC Timber Sales, Strait of Georgia Business Area

Date: _____

2 FSP STOCKING STANDARDS

2.1 Stocking Standards BC Timber Sales (Strait of Georgia Business Area)

ID	Silv Strat REF	BEC			Preferred Species								Acceptable Species								Stocking (w/s)			MIN Inter Tree Dist (m) [1]	Delay
		Zone	SZ/ Variant	Site Series	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	Target P&A (sph)	Min P&A (sph)	Min P (sph)		Max (yrs)
36501	1	CDF	mm	01	Fd	2	Pl	1.25					Cw	1	Bg [7] [8]	1.4	Pw [2]	1.5			900	500	400	2	3
36502	2	CDF	mm	03	Fd	2	Pl [6]	1.25					Cw [7]	1	PW [6]	1.5					800	400	400	2	6
36503	3	CDF	mm	04	Fd	3							Cw	1.5	Bg	1.75	Pw [2]	1.5			900	500	400	2	3
36504	4	CDF	mm	05	Fd	3							Cw	1.5	Pw [2]	1.5					900	500	400	2	3
36505	5	CDF	mm	06	Cw	2	Fd	4					Bg	2.25	Pw [2]	1.5					900	500	400	2	3
36506	6	CDF	mm	10	Pl [4]	1.25							Cw [4]	1							400	200	200	2	3
36507	7	CDF	mm	11	Cw [5]	1															800	400	400		3
36508	8	CWH	mm1	01	Fd	3	Cw	1.5					Hw [17]	2							900	500	400	2	6
36509	9	CWH	mm1	02	Pl	1.25	Fd	2					Cw	1							800	400	400	2	6
36510	10	CWH	mm1	03	Fd	2	Cw [7]	1.0					Hw*	1.75							800	400	400	2	3
36511	11	CWH	mm1	04	Fd	2	Cw [7]	1.0					Pw [22]	2.5	Hw*	1.75					900	500	400	2	3
36512	10	CWH	mm1	05	Fd	3	Cw	1.5					Pw [22]	2.5	Hw*	2	Ba*	.75			900	500	400	2	3
36513	13	CWH	mm1	06	Cw	1.5	Hw	2					Fd [3]	3	Ba*	.75					900	500	400	2	6
36514	14	CWH	mm1	07	Cw	2	Fd	4					Ba [23] *	1	Hw*	2.5					900	500	400	2	3
36515	15	CWH	mm1	12	Cw [5]	1							Hw [5]	1.5	Ss [5]	2					800	400	400	2	3
36516	16	CWH	mm2	01	Hm [12] / Hw	1/ 1.25	Cw	1	Fd [20]	2.25	Yc	1	Ba	.75							900	500	400	2	6

ID	Silv Strat REF	BEC			Preferred Species								Acceptable Species								Stocking (w/s)			MIN Inter Tree Dist (m) [1]	Dela y
		Zone	SZ/ Variant	Site Series	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	Target P&A (sph)	Min P&A (sph)	Min P (sph)		Max (yrs)
36517	17	CWH	mm2	02	Pl	1.25	Fd	1.5					Cw	.75							800	400	400	2	6
36518	18	CWH	mm2	03	Fd	1.5	Hw	1	Cw[29]	.75			Hm[12]	.75	Yc	.75					800	400	400	2	3
36519	19	CWH	mm2	04	Fd	1.5	Cw[29]	.75					Pw[22]	2.5	Yc	.75	Hw*	1			900	500	400	2	3
36520	20	CWH	mm2	05	Ba	.75	Cw	1	Yc	1	Fd[10]	2.25	Pw[22]	2.5	Hw*	1.25					900	500	400	2	3
36521	21	CWH	mm2	06	Hw	1.25	Cw	1	Yc	1			Ba	.75	Hm[12]	1.25	Fd[13]	2.25			900	500	400	2	6
36522	22	CWH	mm2	07	Cw[4]	.75	Hw	1	Ba	.75			Hm[12]	.75	Yc[4]	.75					800	400	400	2	3
36523	23	CWH	mm2	08	Cw	1.25	Yc	1.25	Ba	1			Hw[5]	1.75	Fd[10]	3					900	500	400	2	3
36524	24	CWH	mm2	10	Cw[4]	.75							Pw[22]	2.5	Yc[4]	.75	Hw[5]*	1			800	400	400	2	3
	25																								
36526	26	CWH	vh1	01	Cw	1.5	Hw	2	Yc	1.5			Pl[7]	1.5	Ba[8]*	1.75	Ss[8, 23]*	3			900	500	400	2	6
36527	27	CWH	vh1	03	Cw	1	Hw	1.25	Pl	1.25	Yc	1									800	400	400	2	6
36528	28	CWH	vh1	04	Ba	2.25	Hw	1.75	Cw	2			Ss[23]	4							900	500	400	2	6
36529	29	CWH	vh1	05 & 06	Ba	2.25	Cw	2	Yc	2			Hw[5]	1.75	Ss[23]	4					900	500	400	2	3
36530	30	CWH	vh1	07	Ba	2.25	Cw	2					Hw[5]	1.75	Ss[23]	4					900	500	400	2	3
36531	31	CWH	vh1	11	Cw[4]	1	Pl[7]	1.25	Yc[4]	1	Hw[5]	1.25									800	400	400	2	3
36532	32	CWH	vh1	13	Cw[4]	1	Yc	1					Hw[5]	1.25	Pl*	1.25	Ss*	2			800	400	400	2	3
36533	33	CWH	vm1	01	Cw	1.5	Hw	3	Fd[9,10,15]	3	Ba[20,27]	1.75	Ss[8,23]*	3							900	500	400	2	6
36534	34	CWH	vm1	03	Cw	1	Hw	2	Fd[10,15]	2			Pl[26]	1.25							800	400	400	2	6
36535	35	CWH	vm1	04	Cw	1.5	Hw	3	Fd[10,15]	3			Ba*	1.75							900	500	400	2	3
36536	36	CWH	vm1	05	Ba[27]	1.75	Cw	1.5	Hw	3	Fd[4,9, 10,15]	3	Ss[23]	3							900	500	400	2	3

ID	Silv Strat REF	BEC			Preferred Species								Acceptable Species								Stocking (w/s)			MIN Inter Tree Dist (m)[1]	Delay
		Zone	SZ/ Variant	Site Series	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	Target P&A (sph)	Min P&A (sph)	Min P (sph)		Max (yrs)
36537	37	CWH	vm1	06	Ba 20,27	1.75	Cw	1.5	Hw	3			Ss 8,23 *	3							900	500	400	2	6
36538	38	CWH	vm1	07	Ba[27]	2.25	Cw	2	Hw[5]	4	Fd 4,10,18	4	Ss[23]	4							900	500	400	2	3
36539	39	CWH	vm1	08	Ba[27]	2.25	Cw	2	Hw[5]	4			Ss[23]	4							900	500	400	2	3
36540	40	CWH	vm1	14	Cw[4]	1.5							Hw[4]	3	Ss 4,23 *	3	Pl 26*	2			800	400	400	2	3
36541	41	CWH	vm2	01	Fd 8,4,10, 18	2.25	Hw	2.5	Cw / Yc[28]	1.5	Ba[27]	1.75			Hm 12 *	1					900	500	400	2	6
36542	42	CWH	vm2	03	Cw	1	Hw	1.75	Fd 10,15	1.5	Yc 28	1	Pw 15,22	2.5	Hm 12 *	0.75	Pl[26] *	1.25			800	400	400	2	6
36543	43	CWH	vm2	04	Cw	1	Hw	1.75	Fd 10,15	1.5	Yc 28	1	Ba	1.5	Pw[15]	2.5	Hm 12 *	0.75	Ss 23 *	2	900	500	400	2	6
36544	44	CWH	vm2	05	Cw	1.5	Hw	2.5	Yc 28	1.5	Ba[27]	1.75	Fd 4,9,10,18	2.25			Hm 12 *	1			900	500	400	2	3
36545	45	CWH	vm2	06	Cw	1.5	Hw	2.5	Yc 28	1.5	Ba[27]	1.75	Hm 12 *	1	Ss * *	3					900	500	400	2	6
36546	46	CWH	vm2	07	Cw	2	Hw[5]	3.5	Yc 28	2	Ba[27]	2.25			Hm 12 *	1					900	500	400	2	3
36547	47	CWH	vm2	08	Cw 13	2	Hw[5]	3.5	Yc 28	2	Ba[27]	2.25	Ss[23]	4	Hm 12 *	1					900	500	400	2	3
36548	48	CWH	vm2	09	Cw[4]	1	Hw[4]	1.75	Yc 4,28	1	Hm 12	1.75	Ba	1.5	Pl * *	1.25					800	400	400	2	3
36549	49	CWH	vm2	11	Cw[4]	1	Yc 4,28	1					Hw[4]	1.75	Hm 12,26 *	0.75	Ss 4,14,23 *	2			800	400	400	2	3
36550	50	CWH	xm	01	Fd	3							Cw	1.5	Pw[22]	2.5	Hw 19	2			900	500	400	2	3
36551	51	CWH	xm	03	Fd	2	Pl[7]	1.25					Cw	1	Hw *	1.25	PW[2]	2.5			800	400	400	2	3
36552	52	CWH	xm	04	Fd	3							Cw	1.5	Pw[22]	2.5					900	500	400	2	3
36553	53	CWH	xm	05	Cw	2	Fd	4					Pw[22]	2.5	Bg[26] *	3.5	Hw*	1.75			900	500	400	2	3
36554	54	CWH	xm	06	Cw	1.5	Hw	2	Fd[19]	3			Bg * *	3	Pw[2]	2.5					900	500	400	2	6
36555	55	CWH	xm	07	Cw	2	Fd	4	Bg	3.5			Hw*	1.75							900	500	400	2	3

ID	Silv Strat REF	BEC			Preferred Species								Acceptable Species								Stocking (w/s)			MIN Inter Tree Dist (m) [1]	Dela y
		Zone	SZ/ Varia nt	Site Seri es	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	Target P&A (sph)	Min P&A (sph)	Min P (sph)		Max (yrs)
36556	56	CWH	xm	12	Cw [4]	1							Hw [9] **	1.5	Pw [22]	2.5	Ss [23]*	1.5			800	400	400	2	3
36557	57	MH	mm1	01	Ba	0.6	Hm	1	Yc	1.0			Hw [13,26]*	1							900	500	400	2	7
36558	58	MH	mm1	02	Hm	.75	Yc	.75					Ba	0.6							800	400	400	2	4
36559	59	MH	mm1	03	Ba	0.6	Hm	1	Yc	1			Hw [13,26]*	1							900	500	400	2	4
36560	60	MH	mm1	04	Ba	0.6	Hm	1	Yc	1			Hw [13,26]*	1							900	500	400	2	7
36561	61	MH	mm1	05	Ba	0.6	Yc	1					Hm	1	Hw [13,26]	1					900	500	400	2	4
36562	62	MH	mm1	06	Hm [4]	.75	Yc [4]	.75					Ba [4]	0.6							800	400	400	2	7
36563	63	MH	mm1	07	Ba [4]	0.6	Yc [4]	.75					Hm [4]	.75							900	500	400	2	4
36564	64	MH	mm1	09	Yc [4]	.75	Hm [4]	.75													800	400	400	2	4

2.2 Reference Notes for stocking standards

'Biogeoclimatic unit' or 'BGC classification' means the zone, subzone, variant and site series described in the most recent field guide published by the Ministry of Forests for the identification and interpretation of ecosystems, as applicable to a harvested area.

2.3 Tree Species

'Ba' is amabilis fir
'Bg' is grand fir
'Cw' is western red cedar
'Fd is coastal douglas fir
'Hm' is mountain hemlock
'Hw' is western hemlock
'Pl' is lodgepole pine
'Pw' is white pine
'Ss' is sitka spruce
'Yc' is yellow cedar

MIN' or 'Min' means minimum

1. Reduction of inter-tree spacing to 1.5 m is acceptable for site specific conditions involving bedrock, large blocky colluvium or hygric sites or on disturbed roadside areas. Roadside areas generally contain high percentages of mineral and morainal type soils.
2. Pw is considered an acceptable species, as root diseases are prevalent in the CDF variant, site series 01 to 06. It will be acceptable to form up to 20% of the free-growing stand.
3. Cw will be considered an acceptable species where root diseases are prevalent and on standards units where an unmappable mosaic of site series includes moister site series. It will be acceptable to form up to 10% of the free-growing stand.
4. Elevated microsites are preferred.
5. Suitable on thick forest floors
6. Restricted to coarse-textured soils
7. Restricted to nutrient-very-poor sites
8. Restricted to nutrient-medium sites
9. Restricted to steep slopes
10. Restricted to southerly aspects
11. Restricted to northerly aspects
12. Restricted to upper elevations of biogeoclimatic unit
13. Restricted to lower elevations of biogeoclimatic unit
14. *Footnote deleted*
15. Restricted to southern portion of biogeoclimatic unit in region
16. Restricted to western portion of biogeoclimatic unit in region
17. Restricted to eastern portion of biogeoclimatic unit in region
18. Restricted to trial use.
19. Suitable (as a major species) in wetter portion of biogeoclimatic unit.
20. Suitable minor species on salal-dominated sites
21. *Footnote deleted*
22. Risk of white pine blister rust
23. Risk of weevil damage
24. Suitable in areas with stronger maritime influence.
25. Risk of balsam woolly adelgid.
26. Minor component
27. May only be used as acceptable species within the balsam woolly adelgid quarantine zone.
28. Species is restricted to upper elevations when used in the southern portion of the biogeoclimatic unit.
29. Will be preferred in wetter portions of the site series

This table is based on the Vancouver Forest Region *Reference Guide for FDP Stocking Standards* dated December 11, 2002. Where site series have the same requirements for each of the above boxes, they have been combined.

Site series where the stocking standards say 'avoid logging', or the site series that are floodplain site series, sites with strongly fluctuating water tables or shoreline/ocean spray sites have been excluded.
Zones and variants not shown on the BEC map for the South Island Forest District have been excluded from the table.

The minimum density post-spacing is listed as recommended in the Establishment to free-growing guidebook for the VFR – i.e. the same as the minimum stocking standard. The maximum density post-spacing is also as per the guidebook, i.e. – not more than 600 well-spaced trees above the target stocking standard specified.

*Species are listed as tertiary in the Vancouver Forest Region (VFR) recommended stocking standards, but not listed as acceptable species. They have been included as acceptable for a minor portion of the stand if a cruise report indicates it was present as merchantable volume in the pre-harvest stand. The percentage of the free-growing stand that may be comprised of the species will be on a sliding scale up to 20%. For example, if a cruise report showed 15% Hw merchantable volume in the pre-harvest stand, up to 15% of the free-growing stand could be Hw.
** Hw is listed as an acceptable species in the VFR stocking standards but no height was given – 1.5 m is used as the minimum height.
In addition to the notes regarding species in the VFR stocking standards, the following apply:

- Ba is moved from preferred to acceptable due to balsam woolly adelgid hazard in site series 08 of CWHmm1.
- Ba will be restricted to acceptable if located within the Balsam Woolly Adelgid quarantine zone in site series CWH mm2 05, 07, 08; CWH vh1 04, 05, 06 and 07 and CWHvm1 01, 05, 06, 07 and 08.
- Bg will be restricted to the acceptable category if located within the Balsam Woolly Adelgid quarantine zone in site series CWHxm 07.
- Ss is moved from preferred to acceptable due to risk of weevil damage in 04 and 05 site series of CWHvh2.
- On CWH vm1 site series 01, 05 and CWH vm2 01, Fd is restricted to steep slopes.

Where standards units (SUs) are comprised of an unmappable mosaic of site series, the practice will be to manage for the stocking standards of the dominant site series provided that the tree species are suitable in all site series contained within the SU.

Pruning regime for western white pine. If white pine is to be counted in a free-growing survey as one of the well-spaced stems, it will have been pruned in accordance with the following regime:

First Lift

- Trees will be pruned when mean height of white pine is 1.0 to 2.5 m for plantations.
- Natural white pine will be pruned when height is 1.5 to 3.0 m
- Trees will be pruned to 50 to 65% of total tree height.
- Infected branches above target pruning height will be selectively pruned
- In high hazard areas, early pruning will be considered

Second Lift –

- Trees will be pruned when mean height of white pine is $\geq$ 5m
- Trees will be pruned to 3.0 m or 50% of total height
- Trees $\leq$ 5 m will be pruned to 50% of total height

Third Lift (optional) –

- May be performed to approx. 5.5 m to improve wood quality, mainly when used to reforest areas infected with root disease

Definitions of terms used in footnotes:

1. *Disturbed roadside area* – area within the road right-of-way that has been disturbed due to road construction, where logs have been landed and log processing occurs. It would be a maximum of 10 m. from the traveled portion of the road (i.e. the length of a log).
5. *Thick forest floor* – forest floor >20 cm.
6. *Coarse-textured soils* – sand and loamy sand; or sandy loam, loam, sandy clay loam with >70% coarse fragments
9. *Steep slopes* - >50% slope
10. *Southerly aspect*- SSE to WSW with slopes >35%
11. *Northerly aspect* – NW to ENE with slopes >50%